[57] **ABSTRACT**

By means of a suitable data entry device such as an electronic digitizing tablet or graph board, items of data respectively defining the original configuration of a roughly sketched object and the desired final proportions thereof are entered into a stored table called a "pointing sequence list" (PSL), which is capable of storing all of the information required to define both the original form and the desired final configuration of the object. Initially the PSL contains positional entries representing the coordinates of definitive points on the roughly sketched object and dimensional entries specifying the proportions which the object is to have in its final delineation, all arranged in an order corresponding to a predefined pointing sequence which is followed by the operator when he enters the necessary items of graphic information into the system. The initial PSL subsequently is converted to a new PSL by a rectifying procedure which modifies the coordinates of the previously entered points where necessary in order to effect horizontal and vertical alinements of points which are supposed to be located on common axially directed lines. Whenever a coordinate is modified to effect an axial alinement (or in some instances a joinder) between two or more points during the rectification process, the respective entry which corresponds to the modified coordinate in the new PSL is provided with a "pointer" to the PSL location storing the entry which specifies the referenced coordinate, thereby establishing an equivalence between these two entries. The linkages among equivalent entries are preserved during subsequent processing operations performed upon these entries, so that a change in one member of each set affects all of the other members thereof. The new PSL entries are then further modified where necessary in accordance with the proportions specified by the various dimensional entries, so that the PSL ultimately specifies the positions of points defining a rectified and proportioned version of the original rough sketch, thereby enabling a finished drawing or other final representation of the object to be produced from these PSL entries.

23 Claims, 47 Drawing Figures